Ferrous and Non-Ferrous Metals Production with Casting and Forging

(Aluminium Alloys, Copper Alloys, Magnesium Alloys, Welding and Joining Processes, ARC Welding Processes, Electrode coating, Spot Welding, Allied Processes, Electron Beam Welding, Structural Mills, Forging, Metal Casting processes, Foundry Processes, Tube Mills, Extrusion and Drawing, Surface cracking, Metallic Bond, Water Rinsing, Laser Welding, Projection Welding, Basic Oxygen Furnace, Ferrous Metals, Pig Iron, Manganese, Carbon, Alloy Steel, Wrought Iron)

Introduction

The Casting and Forging product is playing a greater role in our everyday lives and is essential than it has ever been. The Casting and Forging industry fortunes is largely dependent on the level of activity within the construction (building and non-building) and automotive sectors. Ferrous and non ferrous metals and its alloys accounts for a large portion of all metal production. Metal ingots and billets are formed by a casting process. The Casting process has traversed a long path and impacted human civilization for nearly five millennia. For any metal casting process, selection of right alloy, size, shape, thickness, tolerance, texture, and weight is very vital. . Casting process involves melting the metal to be used, pouring it into a mould, letting it cool and then knocking out the casting.

On the other hand, forging is one of the oldest known metal working processes.

Forging technology occupies a very important place among all the manufacturing processes as it produces parts with excellent properties and with minimal wastage. Forging involves the use of machinery with a hammering or pressing action to convert basic shapes into a pre-determined form. Forging has the capacity to refine the grain structure and improve the physical properties of the metal. Forging products are consistent, without the defects of porosity, inclusion or voids, and finishing operations like machining, coining, sizing, straightening or surface treatments can also be easily done.

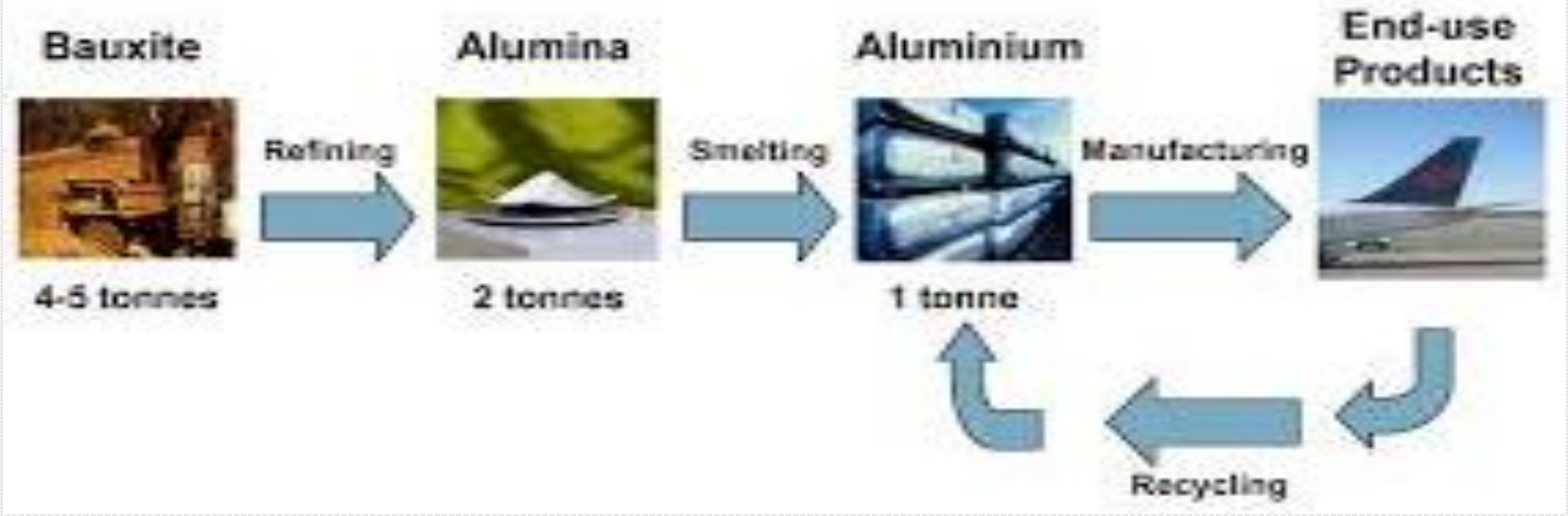
This handbook gives a concise description of the fascinating on the state-of-the-art technology of the casting and forging process of metals and metal alloys. This book contains precise details on production of ferrous and non ferrous metals, its casting and forging process along with their alloys.

It is hoped that this book will find very helpful to all its readers who are just beginners in this field and will also find useful for existing industries, technocrats, technical institutions, etc.

Market Outlook

Global consumption of primary aluminium ingots during the period January to December 2015 (CY2015) increased to ~57.7 million metric tonnes (MMT) from ~54.3 MMT in CY2014, reflecting a growth rate of ~6.4%. However, consumption growth during H2CY2015 was lower, at ~4.2%. Primary aluminium demand during the second half was adversely impacted by consumption of the prevailing stock of semi-finished and finished products in the market. Consumption growth of primary aluminium metal remained at a similar level of ~4.2% in the first quarter of the current calendar year as well.

Aluminium Production Cycle

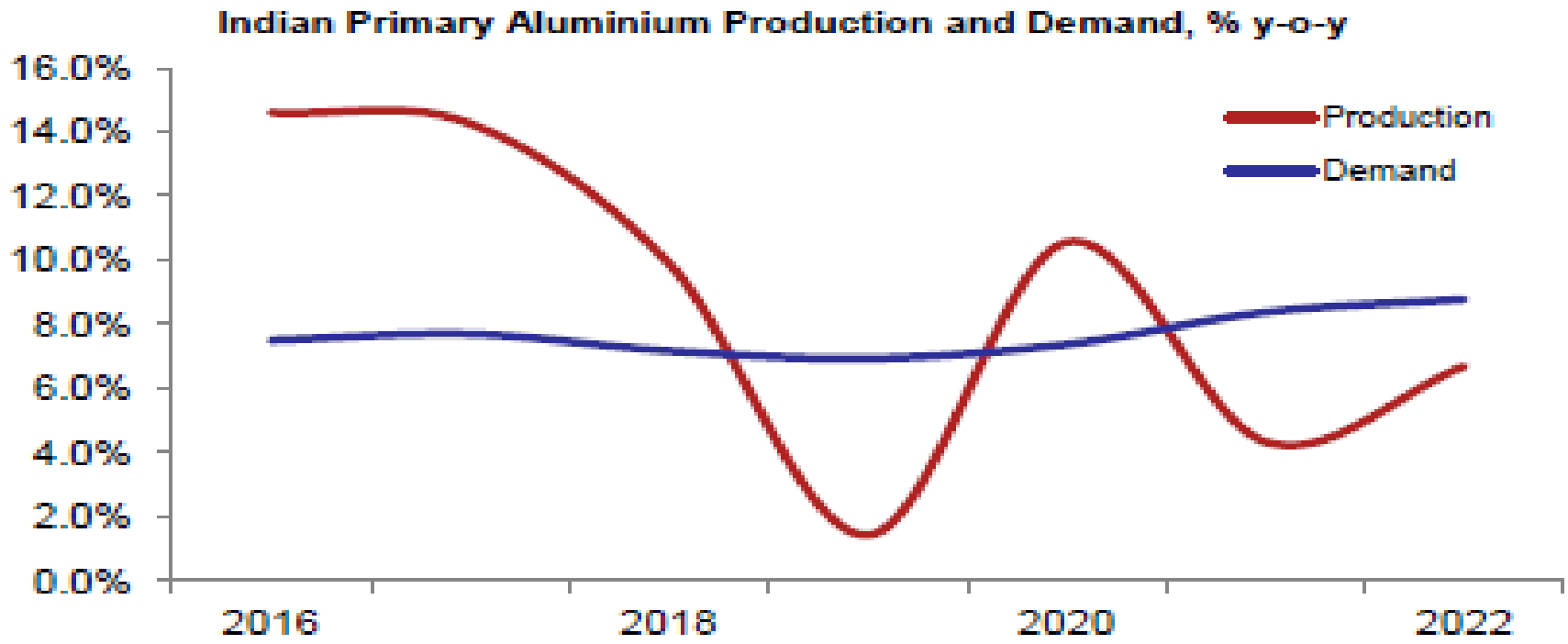


Non-Ferrous Metals Market is expected to grow at a CAGR of 4.91% by the period 2016-2020.

Global non-ferrous metals market and is expected to reach 107 million metric tons by 2020. The growth in this region is attributed to the increasing consumption of non-ferrous metals in India, China, and Japan.

Global consumption of primary Aluminium ingots during the period January to September 2015 increased to ~42.9 million metric tonnes (MMT) from ~40.4 MMT. Global aluminum casting market will grow at a CAGR of nearly 6% by 2020.

Aluminium Production and Consumption

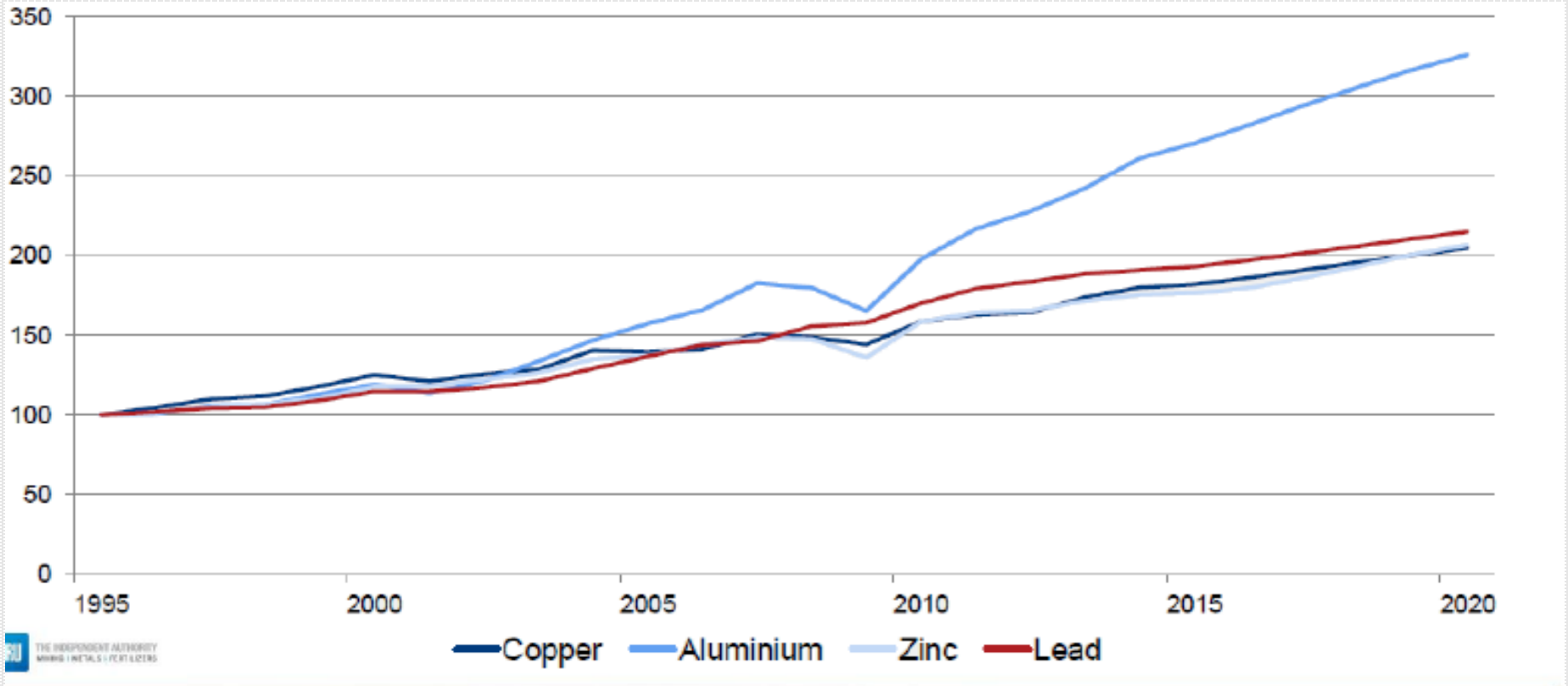


During 2015, copper was one of the fastest growing segments in the global non-ferrous metals market.

Demand for aluminium has grown at a CAGR of 6.5% between 2010 and 2015

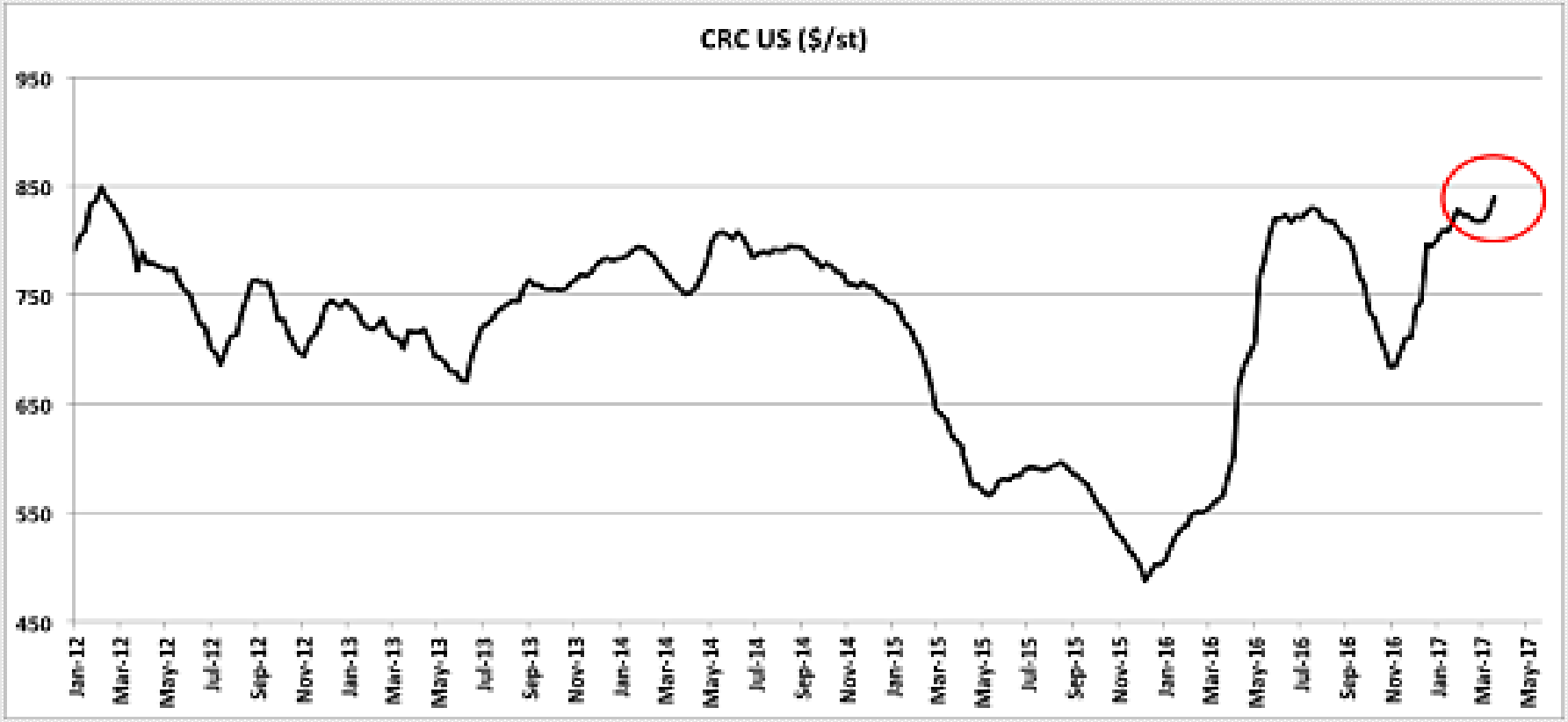
- Other non-ferrous metals grew at an average of 2.5% during the same period
- Much of the growth represents the Chinese investment boom and increased intensity of use of aluminium in the rest of the world

Demand of Zinc, Copper, Aluminium and Lead



During CY2015, apparent global zinc consumption increased to ~13.89 MMT from ~13.78 MMT in CY2014, reflecting a marginal growth rate of ~0.8%. The tepid growth witnessed was largely on account of a slow economic growth in China and ade-growth of consumption in the USA. Going forward, demand growth for refined zinc is expected to remain subdued in CY2016 on the back of an unfavourable demand outlook in major zinc-consuming economies. Nevertheless, the recent infrastructure push in China would support overall growth to an exent.

Zinc Prices

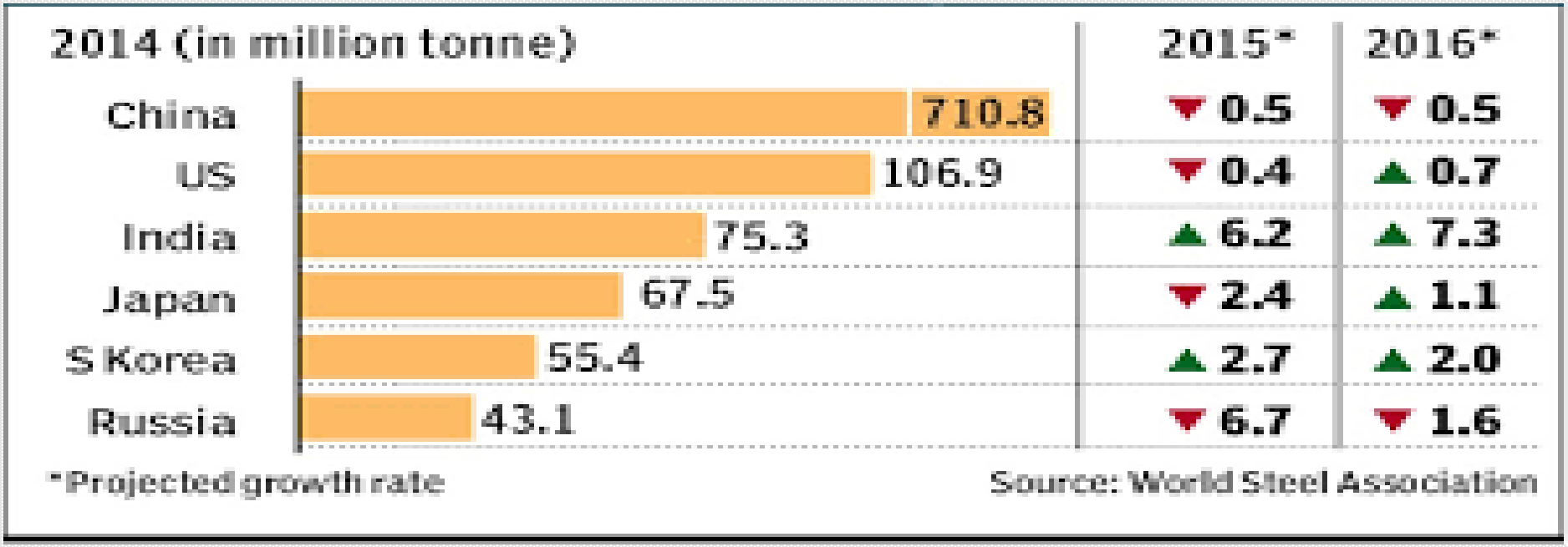


Driven by rising infrastructure development and growing demand for automotives, steel consumption is expected to reach 104 MT by 2017. It is expected that consumption per capita would increase supported by rapid growth in the industrial sector, and rising infra expenditure projects in railways, roads & highways, etc.

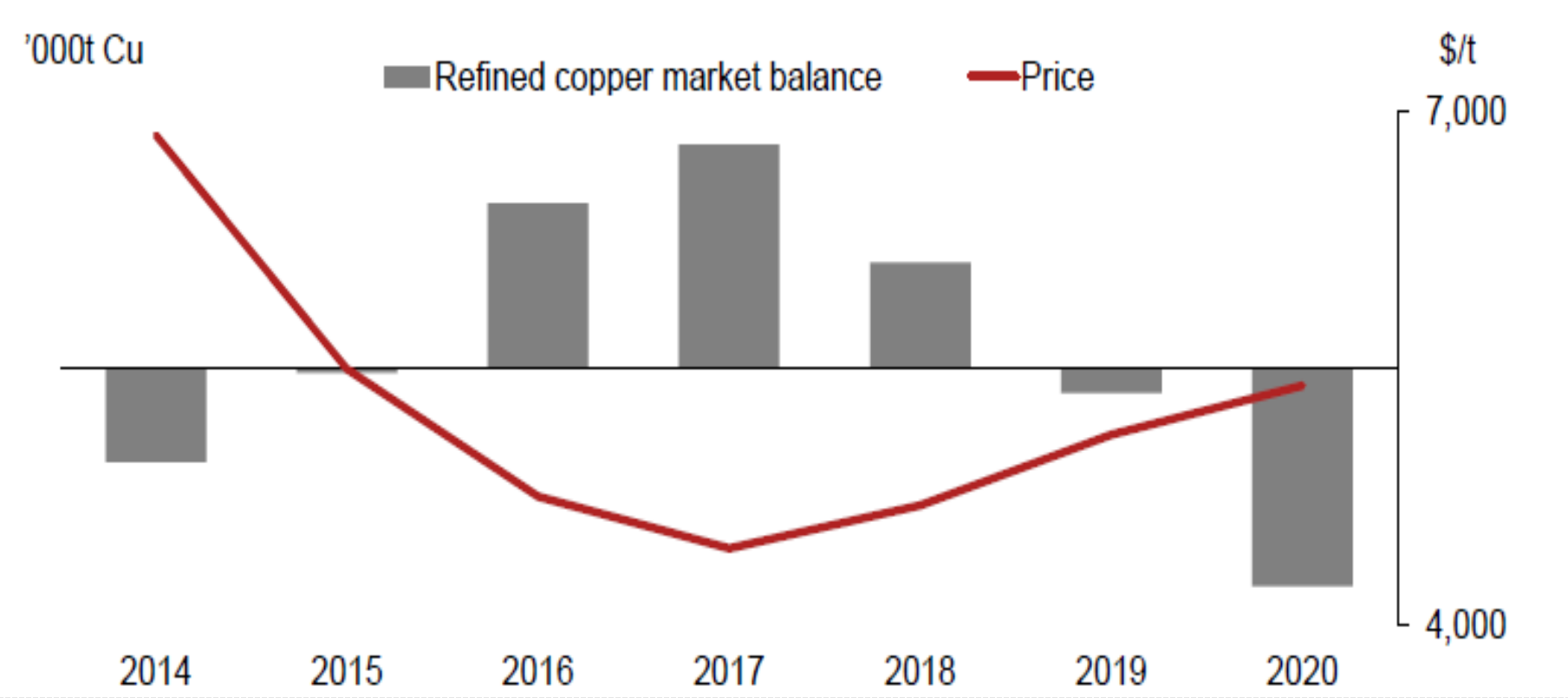
India's crude steel production grew by 7.4 per cent year-on-year to 95.6 Million tonnes (MT) in 2016. Total production of crude steel during February 2017 grew by 8.5 per cent year-on-year to 8.08 MT.

India's steel exports grew 150.0 per cent year-on-year to 0.75 MT in February 2017, while steel imports declined 46 per cent year-on-year to 0.49 MT. Total consumption of finished steel grew by 3.4 per cent year-on-year to 76.22 MT during April 2016-February 2017.

Growth in Steel Consumption



Global copper mine production this year is expected to grow 1.4 percent to 19.2 million tonnes, rising another 2.1 percent to 19.61 million tonnes in 2017.



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Tags

How to Start Ferrous and Non-Ferrous Metal Processing Industry in India, Most Profitable Copper Production Business Ideas, Pig Iron Processing Projects, Small Scale Aluminium Manufacturing Projects, Starting a Non-Ferrous Metal Processing Business, How to Start a Ferrous and Non-Ferrous Metal Production Business, Ferrous Metals Based Small Scale Industries Projects, New small scale ideas in special welding processing industry, NPCS, Niir, Process technology books, Business consultancy, Business consultant, Project identification and selection, Preparation of Project Profiles, Startup, Business guidance, Business guidance to clients, Startup Project for Ferrous, Non-Ferrous Metals, Startup Project, Startup ideas, Project for startups, Startup project plan, Business start-up, Business Plan for a Startup Business, Great Opportunity for Startup, Small Start-up Business Project, Start-up Business Plan for production of non-ferrous metal, Startup India, Stand up India, Aluminium Making Small Business Manufacturing, Modern small and cottage scale industries, Profitable small and cottage scale industries, Setting up and opening your welding and joining Business, How to Start a production of magnesium?, How to start a successful pig iron production business, Small scale Commercial Copper making, Best small and cottage scale industries, Non-Ferrous Metals Business, Profitable Small Scale Manufacturing, Ferrous & Non-Ferrous Metals, Manufacture of Lead, Copper Manufacturing Process, Copper Production Process, Ferrous Metals, Non Ferrous Castings, Non-ferrous metal casting, production of ferrous metal, production of pig iron, production of non-ferrous metal, Production of Aluminum, Production of Magnesium, Manufacturing Process of Lead, Production of copper, Production of Lead, Welding and Joining Process, Arc Welding Process, Resistance Welding Process,

Tags

Oxyfuel Gas Welding Process, Magnesium Processing, Solid State Welding Process, Magnesium Production Process, Special Welding Process, Finish Process, Production of Magnesium, Blast Finishing, Metallic Coating, Conditioning Semi-Finished Products, Structural Mills, Universal Beam Mills, Forging, Precision Forging, Forging Machines, Metal Casting Process, Plaster Mold Casting, Ceramic Mold Casting, Vacuum Casting, Permanent Mold Casting, Cold Chamber Process, Squeeze Casting And Semisolid Metal Forming, Foundry Process, Sand Technology, Tube Mills, Lead Production, Production of Continuous Butt-Welded Pipe, Production of Electric Resistance Welded Tubing and Electric Welded Large Diameter Pipe, Production of Seamless Shells or Bottles by Direct Punching, Rotary Piercing Machines, Plug Rolling Mills, Reeling, Mandrel Mill, Sizing and stretch mills, Production of Tubes, Extrusion Process, Hot Extrusion, Cold Extrusion, Drawing Process, Aluminium production Ferrous Metals Processing Industry, Process of Producing Pig Iron, Ferrous Metals and Production, Process of manufacturing pig iron, Aluminum Manufacturing, Manufacturing Metals, Ferrous and Non-Ferrous Metal Production, Non-ferrous Production, manufacturing process of ferrous metal, Ferrous Metal Manufacture, Non Ferrous Metals – Manufacture, Production Process and of Pig Iron, Manufacture of Pig Iron, Pig iron production, Production of Iron Manufacturing Process, Non-ferrous Metals Industries, Manufacturing of Copper, Manufacturing Process of No-ferrous Metals, Aluminium Production Process, Aluminium Manufacturing Methods, Process of manufacturing of Aluminium, Processes for Magnesium Production, Magnesium Production, Manufacturing Process of magnesium, Copper Production, Manufacture of Copper, Lead Processing, Processing Methods for Producing Lead, Manufacturing Lead, Welding and Allied Process, Joining Process, Welding Process,

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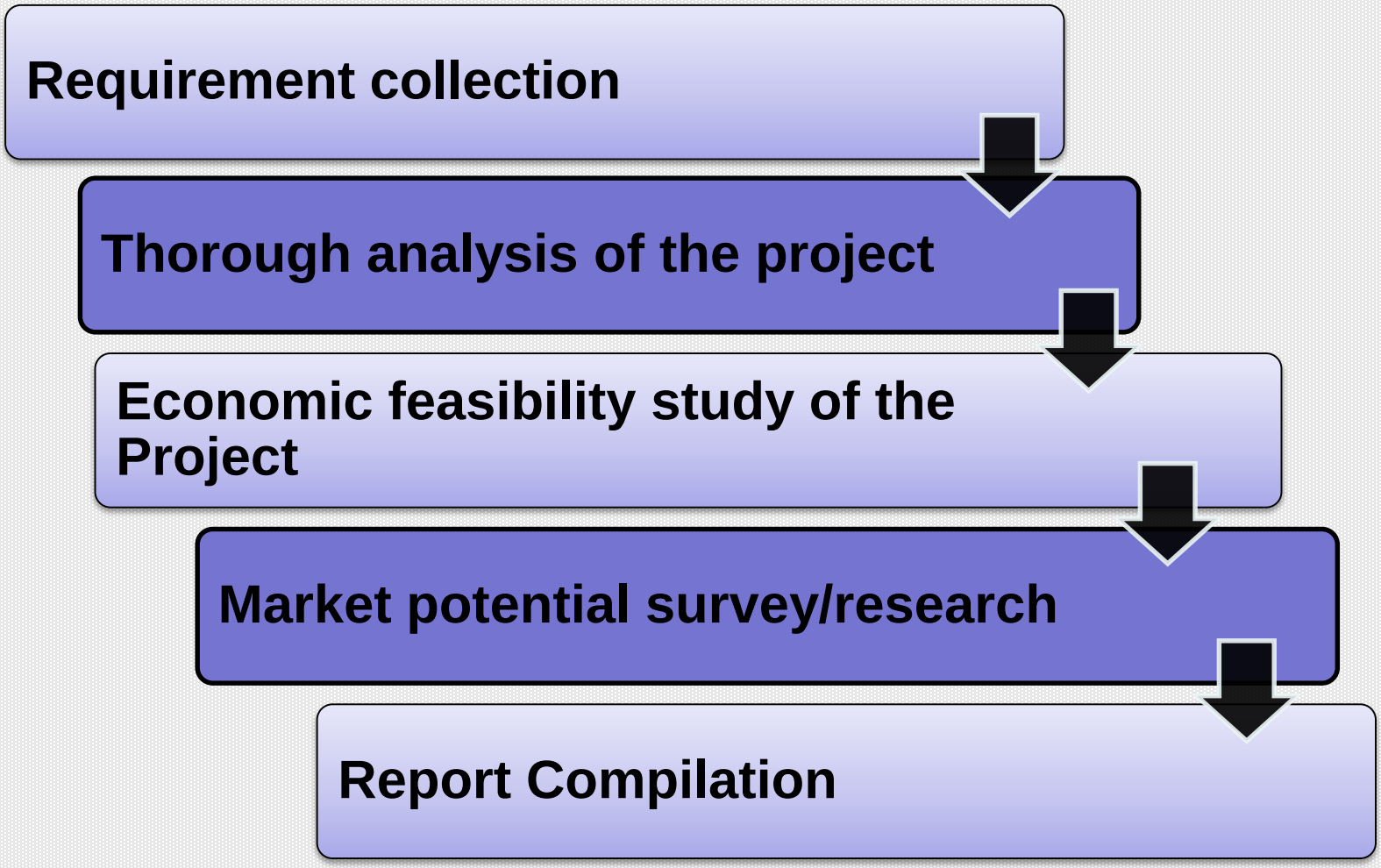
Our Approach



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- *Waste Management & Recycling*
- *Wood & Wood Products*
- *Water Industry(Packaged Drinking Water & Mineral Water)*
- *Wire & Cable*

Contact us

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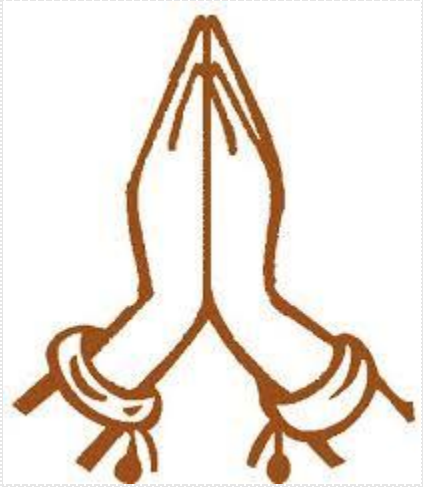

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